

Please delete the numeral 40 and enter the numerals 24 and 24 as shown in red on the enclosed copy of Figure 3;

Please add the numeral 32 designating a thickness as shown in red on the enclosed copy of Figure 4; and

Please change numerals 32 and 34 to numerals 40 and 42 respectively as shown in red on the enclosed copy of Figure 5;

Please add the following new Figure 6.

In the Specification:

At page 6, line 13, delete lines 13 and 14 and substitute therefor the following; - - Figure 3 is a schematic cross-sectional representation of an athletic shoe sole incorporating the orthotic device of the present invention. - -

At page 6 after the description of Figure 5 insert the following:

- - Figure 6 is a top plan view of another alternative embodiment of the orthotic device of the present invention having the pattern shown in Figure 1 cut or otherwise formed in the bottom surface thereof. - -;

At page 8, line 9, delete "26";

This amendment appears on page 8, as follows:

compression of prongs 20A through 20F and released and imparted to the foot of the user as the foot enters the toe off position. Prongs or interdigitated fingers 22A through 22F in area 16 serve to cushion and relieve contact pressure and store energy during the heel strike portion of the gait cycle, while releasing this stored energy in the form of propulsive energy as the foot enters the later aspects of the gait cycle.

As best seen in Figures 1 and also Figure 2 that shows a cross-section of orthotic device 10 incorporated into the sole 24 an athletic shoe [26], interdigitated areas 14 and 16 are comprised of relieved areas 28 and 30 in the bottom of orthotic device 10 whose shapes, in this embodiment, define the shape of prongs or fingers 20A through 20F and 22A through 22F. Any number and shape of prongs can be substituted that achieves the desired end of depressability and spring-like resistance to the structure. In the case where orthotic device 10 is supplied as a separate insert rather than as part of the shoe, relieved areas 28 and 30 are cut or otherwise formed in the bottom of orthotic device 10. Generally, the larger the cut out area 28, the more relief and less resistance the device will impart.

Thickness 32 may vary from less than a millimeter to several centimeters or more. Thickness 32 is limited only by the comfort of the wearer and/or the thickness of the shoe sole depending upon the weight of the user and the design of areas 14 and 16. Of course, areas 14 and 16 can be relieved to differing levels in the same orthotic device 10, if desired. The thickness 32 of orthotic 10 need not be consistent.

At page 9, at the end of line 6, insert the following;

-- Such an embodiment is shown when upper surface 12 depicted in Figure 6 is viewed in concert with lower surface 12A depicted in Figure 1. --

This amendment appears on page 9, as follows:

The thickness and/or material natures of areas 14 and 16 may vary from that of the overall orthotic 10. As an insert, orthotic device 10 may include a separate padded or resilient surface (not shown) on top surface 36 as is conventional practice in the design of orthotic devices of similar types. In such a case the separate resilient surface would be considered an integral part of orthotic device 10 for purposes of calculating the degree of acceptable relief. Such an embodiment is shown when upper surface 12 depicted in Figure 6 is viewed in concert with lower surface 12A depicted in Figure 1.

It should be noted that the configuration of interdigitated areas 14 and 16 can be varied widely from that shown in the attached figures. For example, prongs or fingers 20A through 20F could be oriented transversely to the length of the shoe rather than longitudinally as shown in the attached figures. Similarly, prongs or fingers 22A through 22H could define an overall oval, generally rectangular or any other suitable shape so long as appropriate energy absorption, storage and release is obtained from the configuration chosen and foot comfort is not sacrificed. Similarly, a larger or smaller number of fingers or prongs can be included by the simple expedient of changing the shape of relieved areas 28 and 30. Additionally, the prongs need not have symmetrical interdigitations, for instance, shortening of one of the two opposing sets of prongs would provide a lesser degree of the desired effect.

At page 11, lines 5, 7, 11 and 14 change “32” and “34” to - - 40 - - and - - 42 -
- respectively;

These changes appear on their respective pages as follows:

thereon and thus store more energy as the foot compresses them and release this increased energy as the foot moves to release pressure thereon.

This enhanced energy storage and release can be further enhanced with the structure depicted in Figure 5 wherein fulcrums [32] 40 and [34] 42 and 36 and 38 have been introduced between interdigitated prongs or fingers 20A-20F and 22A-22F and lower surface 12A of orthotic device 10. The introduction of fulcrums [32] 40, [34] 42, 36 and 38 further increase the resistance of interdigitated fingers or prongs 20A-20F and 22A-22F to deflection as the foot moves downward resulting in an increase the amount of energy stored by this action and allowing the release of this additional energy as the foot rises toward the next step. Fulcrums [32] 40, [34] 42, 36 and 38 may comprise simply a thickening of the material of orthotic device 10 at the appropriate points or the introduction of a fine metal or other material rod at this point to provide the appropriate fulcrum. The location of fulcrums [32] 40, [34] 42, 36 and 38 may be varied depending upon the degree of enhanced resistance sought to be provided. Thus, the fulcrums may be located immediately proximate surface 12A or located outward along the lengths of prongs 20A-20F and 22A-22F. As the fulcrum is moved outward along the length of the prongs, the resistance to bending demonstrated by the prongs will increase. Whatever mechanism is used, caution must me exercised not to compromise the comfort of orthotic 10 by the introduction of fulcrums as described and shown.